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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,189	09/10/2003	Brian A. Hamman	QNX001	6325

7590 01/24/2005
BRIAN A. HAMMAN
845 FAIRVIEW DRIVE
AUBREY, TX 76227

EXAMINER

VORTMAN, ANATOLY

ART UNIT PAPER NUMBER

2835

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,189

Applicant(s)

HAMMAN, BRIAN A.

Examiner

Anatoly Vortman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/10/03 and PreAm. filed on 8/3/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) ✓
Paper No(s)/Mail Date 8/1/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 36, 39, 40, 46, 49, and 50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The aforementioned claims are not a part of the application as originally filed, because they have been added by Preliminary Amendment filed on 08/03/04 after filing date of the instant application and after filing date of the first executed Oath and Declaration, which is 09/10/03.

The new matter recited in the claims is: “a personal data assistant” (claims 36 and 46), “a mobile device” (claims 39 and 49), and “a laser system” (claims 40 and 50). The specification as originally filed does not provide any support for the aforementioned claimed subject matter. The claims essentially recite the new use of the device, which constitutes new matter. *Ex parte Ayers*, 108 USPQ 444 (Bd. App. 1955), (see MPEP 608.04(a)).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-13, 15-17, 19-34, 38, 41-44, 48 and 51, are rejected under 35

U.S.C. 102(b) as being clearly anticipated by US/5,731,954 to Cheon.

Regarding apparatus claims 1-13, 15-17, 19, 25, 26, 28-34, 38, 42-44, and 48, Cheon (954) disclosed (Fig. 2, 4, 5, and 6) a liquid cooling system (a heat transfer system) for a computer, as recited in the claims, said cooling (heat transfer system) deployed in a housing (Fig. 1), including: a heat exchange unit (a heat dissipater) (42) with multiple paths coupled to the conduit (72, 74), a heat transfer unit (a contact unit) (12 or 30) interfacing with a processor (8) mounted on a mother board (4) and coupled through the conduit (72, 74) to the heat exchange unit (42), a motor (M-1) driven self-priming pump (50) having an impeller (82) with curved blades, said impeller (82) is driven by said motor (M-1) via a shaft (88), said heat transfer (contact) unit (30) having an inlet (34) positioned below an outlet (36), wherein said heat exchange unit (42) having an input cavity (58) containing a dissipater with fins (64) coupled to said input cavity (58), and an output cavity (60), said output cavity (60) is positioned below the input cavity (58), wherein said pump (50) and said impeller (82) are disposed in said output cavity (60) for transporting a coolant (C).

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Regarding method claims 20-24, 27, 41, and 51, the method steps recited in the claims are inherently necessitated by the device structure as taught by Cheon ('954).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 35-37, 39, 40, 45-47, 49, and 50, are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon ('954) taken alone.

Regarding claims 35-37, 39, 40, 45-47, 49, and 50, Cheon disclosed all, but that said heat exchange (heat transfer) system is a part of (i.e. is used for cooling of) either: communication system, PDA, cellular phone, mobile device, or laser system.

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to use the heat exchange (heat transfer) system of Cheon for cooling of any desirable electronic system, including the claimed communication system, PDA, cellular phone, mobile device, or laser system, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

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7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon ('954) taken with either US/5,323,847 to Koizumi et al., (Koizumi) or with US/6,313,990 to Cheon.

Cheon ('954) disclosed all, but a fan.

Koizumi disclosed a liquid cooling system for a computer (Fig. 1) having fans (45) to facilitate cooling of a heat exchanger (41).

Cheon ('990), also disclosed a liquid cooling system for a computer (Fig. 2) having a fan (50) to facilitate cooling of a heat exchanger (36).

Since all of the aforementioned references are from the same field of endeavor (liquid cooling systems), the purpose of fans disclosed by either Koizumi or Cheon ('990) would be recognized in the invention of Cheon ('954).

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to modify to Cheon ('954) according to the teachings of either Koizumi or Cheon ('990) so as to provide a fan for cooling the heat exchange unit (42) of Cheon ('954) in order to augment the rate of the heat exchange and to enhance the efficiency of the cooling system.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon ('954) taken with US/4,610,222 to Goddard et al., (Goddard).

Cheon ('954) disclosed all and further that said coolant (C) is an automotive radiator fluid (column 5, lines 46+), but did not disclose that said coolant (C) is a propylene glycol based coolant.

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Goddard disclosed an automotive radiator fluid, which contains a propylene glycol additive in order to inhibit oxidation and corrosion (column 4, lines 50-58).

Since inventions of Cheon ('954) and of Goddard are from the same field of endeavor (liquid cooling systems), the purpose of the propylene glycol additive disclosed by Goddard would be recognized in the invention of Cheon ('954).

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to provide said coolant (C) of Cheon ('954) with the propylene glycol additive as taught by Goddard in order to inhibit oxidation and corrosion of the components in the Cheon's ('954) cooling system.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

US/5764483, 5634351, 6751095, 6234240, 5606341, 6097597, 6791834, 6250378, 5383340, and 5339214 disclosed liquid cooling systems for computers.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anatoly Vortman
Primary Examiner
Art Unit 2835

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', followed by a long horizontal line extending to the right.